THE MERCK INDEX

AN ENCYCLOPEDIA OF
CHEMICALS, DRUGS, AND BIOLOGICALS

THIRTEENTH EDITION

Editorial Staff

Maryadele J. O'Neil, *Senior Editor*
Ann Smith, *Senior Associate Editor*
Patricia E. Heckelman, *Associate Editor*

John R. Obenchain Jr., *Editorial Assistant*
Jo Ann R. Gallipeau, *Technical Assistant*
Mary Ann D'Arecca, *Administrative Associate*

Susan Budavari, *Editor Emeritus*

Published by
Merck Research Laboratories
Division of

MERCK & CO., INC.
Whitehouse Station, NJ

2001

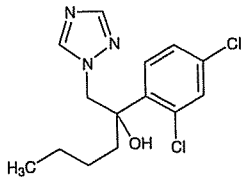
MERCK & CO., INC.
Whitehouse Station, NJ
USA

1st Edition—1889
2nd Edition—1896
3rd Edition—1907
4th Edition—1930
5th Edition—1940
6th Edition—1952
7th Edition—1960
8th Edition—1968
9th Edition—1976
10th Edition—1983
11th Edition—1989
12th Edition—1996

Library of Congress Catalog
Card Number 89-60001
ISBN Number 0911910-13-1

Printed in the USA

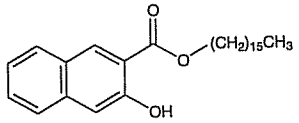
Dis. **1986,** 19. Review of analytical methods: K. J. Harradine *et al.* in *Comprehensive Analytical Profiles of Important Pesticides*, J. Sherma, T. Cairns, Eds. (CRC Press, Boca Raton, 1993) pp 43-57.



White crystalline solid, mp 111°. d^{25} 1.29. Log P (octanol/water): −3.9 at 20°. Vapor pressure (20°): 2×10^{-8} kPa. Soly at 20° (g/l): water 0.017; methanol 246; acetone 164; toluene 59; hexane 0.8. LD_{50} orally in mallard ducks, male rats, female rats: >4000, 2189, 6071 mg/kg; dermally in rats: >2000 mg/kg. LC_{50} (96 hour) in rainbow trout: >6.7 mg/l (Shephard).

USE: Agricultural fungicide.

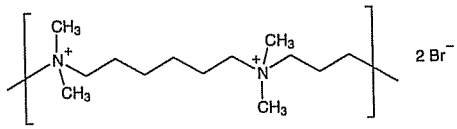
4701. Hexadecyl 3-Hydroxy-2-naphthoate. [531-84-0] 3-Hydroxy-2-naphthalenecarboxylic acid hexadecyl ester. $C_{27}H_{40}O_3$; mol wt 412.60. C 78.60%, H 9.77%, O 11.63%. Prepd by the action of 3-hydroxy-2-naphthoyl chloride on cetyl alc: Oshima, Hayashi, *J. Soc. Chem. Ind. Japan* **44,** 821 (1941).



Greenish-white, flaky crystals, mp 72-73°. Soluble in benzene, glacial acetic acid, petr ether. Sparingly sol in cold alcohol. Insol in water.

USE: As waterproofing agent for rayon.

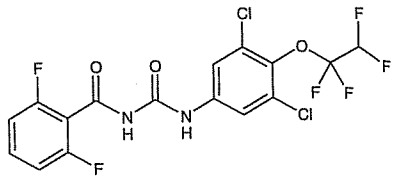
4702. Hexadimethrine Bromide. [28728-55-4] *N,N,N′,N′*-Tetramethyl-1,6-hexanediamine polymer with 1,3-dibromopropane; polymer of *N,N,N′,N′*-tetramethylhexamethylenediamine and trimethylene bromide; poly(*N,N,N′,N′*-tetramethyl-*N*-trimethylenehexamethylenediammonium dibromide); Polybrene. $(C_{13}H_{30}Br_2N_2)_x$. Toxicity study: Kimura *et al., Toxicol. Appl. Pharmacol.* **1,** 185 (1959).



White, hygroscopic, amorphous polymer. Soluble in water up to 10%. pH of 1% saline soln 5-9. Stable in soln and when autoclaved. Polymers with mol wt of 5000-10,000 have LD_{50} i.v. in mice: 25-40 mg/kg (Kimura).

THERAP CAT: Heparin antagonist.

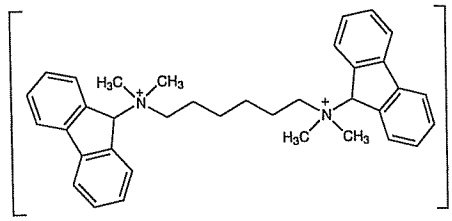
4703. Hexaflumuron. [86479-06-3] *N*-[[[3,5-Dichloro-4-(1,1,2,2-tetrafluoroethoxy)phenyl]amino]carbonyl]-2,6-difluorobenzamide; 1-[3,5-dichloro-4-(1,1,2,2-tetrafluoroethoxy)phenyl]-(2,6-difluorobenzoyl)urea; DE-473; XRD-473; Consult; Trueno. $C_{16}H_8Cl_2F_6N_2O_3$; mol wt 461.15. C 41.67%, H 1.75%, Cl 15.38%, F 24.72%, N 6.07%, O 10.41%. Insect growth regulator; inhibits chitin synthesis. Prepn: R. H. Rigterink, R. J. Sbragia, **EP 71279**; *eidem,* **US 4468405** (1983, 1984 both to Dow). Physical properties and activity: R. J. Sbragia *et al., Proc. 10th Int. Congr. Plant Prot.* **1,** 417 (1983). Chromatographic determn in soil: A. Khoshab, R. Teasdale, *J. Chromatog. A* **660,** 195 (1994). Environmental distribution: D. Yon *et al., Brighton Crop Prot. Conf. - Pests Dis.* **1992,** 907. Field trials in food crops: K. N. Komblas, R. C. Hunter, *Brit. Crop Prot. Conf. - Pests Dis.* **1986,** 907; vs subterranean termites: N.-Y. Su, *J. Econ. Entomol.* **87,** 389 (1994).



White solid, mp 197-199°. Soly in water (23°): 0.7 mg/L. vapor pressure (298° K): 5.87×10^{-9}.

USE: Insecticide.

4704. Hexafluorenium Bromide. [317-52-2] *N,N′*-Di-9*H*-fluoren-9-yl-*N,N,N′,N′*-tetramethyl-1,6-hexanediaminium dibromide; hexamethylenebis[9-fluorenyldimethylammonium bromide]; hexamethylenebis(dimethyl-9-fluorenylammonium bromide); Mylaxen. $C_{36}H_{42}Br_2N_2$; mol wt 662.55. C 65.26%, H 6.39%, Br 24.12%, N 4.23%. Neuromuscular blocking agent with pseudocholinesterase inhibitory activity. Prepn: Cavallito *et al., J. Am. Chem. Soc.* **76,** 1862 (1954); Cavallito, Gray, US **2783237** (1957 to Irwin, Neisler). Clinical trial for prolongation of succinylcholine muscular block: L. F. Walts *et al., Anesthesiology* **33,** 503 (1970). Review: R. M. Britton, M. Figueroa, *Anesth. Analg.* **52,** 100-105 (1973).



Crystals from *n*-propanol, mp 188-189°.

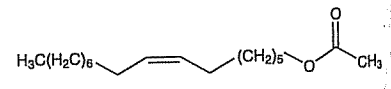
THERAP CAT: Succinylcholine synergist.

4705. Hexafluorobenzene. [392-56-3] Perfluorobenzene. C_6F_6; mol wt 186.05. C 38.73%, F 61.27%. Prepn: E. T. McBee *et al., Ind. Eng. Chem.* **39,** 378 (1947); J. A. Godsell *et al., Nature* **178,** 199 (1956). Toxicology: C. F. B. Nhachi, *Toxicology* **39,** 317 (1986). Mechanistic study of metabolite formation: I. M. C. M. Rietjens, J. Vervoort, *Chem. Res. Toxicol.* **5,** 10 (1992).

mp −13 to −11°. bp_{743} 81.0-82.0° (McBee); also reported as bp 80° (Godsell). n_D^{20} 1.3760; n_D^{18} 1.3746. d_4^{25} 1.612.

USE: Solvent; intermediate in chemical synthesis.

4706. Hexalure. [23192-42-9] (*Z*)-7-Hexadecen-1-ol acetate; *cis*-7-hexadecenyl acetate; *cis*-1-acetoxy-7-hexadecene; hexalene. $C_{18}H_{34}O_2$; mol wt 282.46. C 76.54%, H 12.13%, O 11.33%. Synthetic sex pheromone for pink bollworm moths, *Pectinophora gossypiella* (Saunders). Discovery and prepn: N. Green *et al., Experientia* **25,** 682 (1969); N. Green, J. C. Keller, **DE 1960155**; *eidem,* **US 3586712** (1970, 1971 both to U.S. Sec. Agric.). Field trials: J. C. Keller *et al., J. Econ. Entomol.* **62,** 1520 (1969). Acute toxicity study: M. Beroza *et al., Toxicol. Appl. Pharmacol.* **31,** 421 (1975). *See also* Gossyplure, Propylure.



Clear oily liquid, $bp_{0.001}$ 100-104°. n_D^{25} 1.4484. Insol in water. Sol in hexane, ether, acetone, benzene. LD_{50} in rats (mg/kg): >34600 orally; in rabbits (mg/kg): >2025 dermally (Beroza).

USE: Insect attractant.